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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,059	10/25/2000	Christopher K. Thomas	12026-2	1673

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EXAMINER

ALPERT, JAMES M

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,059

Applicant(s)

THOMAS, CHRISTOPHER K.

Examiner

James Alpert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/25/2000 as amended on 12/11/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The application has been reviewed, and Claims 1-21 are pending. The objections and rejections are as stated below.

Claim Rejections - 35 U.S.C. § 101

35 U.S.C. 101 reads as follows:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

Claims 1-21 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Specifically, the method claims as presented are not directed toward the technological arts. Without a claimed technological basis, the claim may be interpreted in an alternative as involving no more than a manipulation of an abstract idea and therefore non-statutory under 35 U.S.C. §101. In contrast, method claims that include in the body of the claim a structural/functional interrelationship that can only be computer implemented are considered to be within the technological arts. [See Ex parte Bowman, 61 USPQ2d 1669, 1671 (Bd. Pat. App. & Inter. 2001) - used only for content and reasoning since not precedential.]

In order to overcome the §101 rejections above, the following preamble is suggested: "A computer implemented method for ...", or something similar. Also, the body of the claim must include a structural / functional interrelationship that is directed toward the technological arts. Appropriate correction is required.

Further, in order that a claimed invention be rendered statutory under 35 U.S.C. §101, it must be limited to a practical application, i.e. it must produce "useful, tangible

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and concrete result". (MPEP 2600.II.A.) Claims 1-21 variously recites limitations such as:

- Claim 1: "reporting the number of aberrant flags"
- Claim 2: "recording an overall financial instrument aberrant flag"
- Claim 5: "an aberrant flag is recorded"
- Claim 7: "an overall financial instrument aberration"
- Claim 8: "identifying the differences as being aberrant"
- Claim 12: "reporting the presence of any differences that are aberrant"
- Claim 13: "reporting the total number of differences that are aberrant"
- Claim 14: "identifying ... an overall financial instrument aberration"
- Claim 19: "identifying if the financial instrument is aberrant"
- Claim 21: "determining whether the differences exceed expected variation"

Merely applying a flag or reporting a security as trading in a manner that is statistically different over a variety of historical measurements, may or may not generate a security transaction. A user may or may not act upon such flags or signals to affect a security transaction. Due to this indefiniteness of the recited claim language the claimed invention fail to produce a produce a "useful, concrete and tangible" result. (See MPEP 2106.IV.B.2.(b).ii for discussion of Practical Application). The claim is therefore, is directed to non-statutory subject matter, i.e. an abstract idea without limitation to a practical application and are analyzed as non-statutory subject matter under 35 U.S.C. §101. Appropriate correction should be considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bay, U.S. Pat. #534745 in further view of Li, U.S. Pat. #6453303.

With regard to Claims 1 and 2, Bay teaches a method of for identifying aberrant behavior of a financial instrument comprising:

- (a) recording the closing price, volume and number of transactions conducted for the financial instrument in a selected trading session,
(Figure #1, Fig #1A, Col. 1 lines 47-57)
- (b) identifying a plurality of time periods, each of said time periods terminating with the trading session of the financial instrument immediately preceding the selected trading session;
(Col. 2 lines 5-18)
- (c) calculating the average and standard deviation of the price, volume and number of transactions during each of the time periods;
(Col. 3 lines 24-27, Figure #1, Col. 3 line 52 thru Col. 4 line 8)
- (d1) determining whether the closing price, volume and number of transactions differs from the average of the corresponding component during each of the time periods by a selected number of standard deviations and ...
(Col. 5 lines 10-27, Col. 5 lines 41-50)

Bay fails to disclose the remainder of the central tenants of Claims 1-2. However, in an analogous invention, Li teaches that for each case in which a difference is sufficiently large to indicate aberrance, the method will execute:

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- (d2) identifying and recording an aberrant flag;
- (e) counting the number of aberrant flags;
- (f) reporting the number of aberrant flags.
- (g) selecting a threshold value corresponding to an expected total number of aberrant flags;
- (h) calculating the difference between the total number of aberrant flags and the threshold value; and
- (i) recording an overall financial instrument aberrant flag if the magnitude of the difference from above is sufficiently large.
(Col. 5 lines 10-27, Col. 5 lines 41-50)

It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Bay to include the teachings of Li to formulate a method that provides appropriate signaling or flagging, because by not only displaying aberrant behavior, but also signaling deviation, the system and method provide investors with an analytical tool for decision making that would be simple and easy to understand. Users would have to do less work to acquire and act on useful and important information. **With regard to Claims 3,8-9,12,14-15, and 20-21,** these claims are additionally rejected under a similar analysis as applied to Claim 1.

With regard to Claims 4 and 16, Bay teaches a method wherein:

the financial instrument is sold on at least one market, the at least one market has market indexes that are analogous to the closing price, the volume and the number of transactions, and wherein the selected number of standard deviations depends at least in part on standard deviations of the market indexes for the time periods.
(Col. 3 lines 2-6)

With regard to Claims 5-6 and 17-18, Bay in view of Li fails to teaches a method wherein:

for each time interval, an aberrant flag is recorded if both the difference between the number of transactions for the selected trading session and the average number of transactions is sufficiently large and the number of transactions for the selected trading session is greater than the average numbers of transactions, and

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for each time period, an aberrant flag is recorded if both the differences between the volume for the selected trading session and the average volume is sufficiently large, and the volume for the selected trading session is greater than the average volume.

The examiner takes Official Notice that a specification of the direction of difference away from the mean is an old and well known in the art, and is mainly a decision of design. As such, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Bay in view of Li to include an aberrant flag when the difference between the number of transactions or volume of shares traded is significantly greater than the average number of transactions or average volume of shares traded. This is because users would clearly be interested in determining when there is a hyperactive market for a particular security over what has historically occurred.

With regard to Claims 7,13, and 19, Bay fails to teach the following steps:

- (j) calculating an average number of aberrant flags for the financial instrument over a selected number of trading sessions immediately prior to the selected trading session;
- (k) comparing the number of aberrant flags in the selected trading session with the average number of aberrant flags; and
- (l) identifying the existence of an overall financial instrument aberration if the comparison in step (k) results in a difference above a threshold value.

However, Li does include this analysis. Please see Col. 6 line 66 thru Col. 7 line 41 and Col. 6 lines 59-65. It would again have been obvious to one of ordinary skill in the art at the time applicant's invention was made to modify the teachings of Bay to include the teachings of Li to formulate a method wherein overall instrument aberration is calculated for several preceding days, in order to provide the most comprehensive view of a security prior to trading: the analysis of historical data is central to the process.

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With regard to Claim 10, Bay teaches the method wherein:

the expected variations are selected depending on the averages and standard deviations of the parameters over the time periods.
(Col. 3 lines 35-51)

With regard to Claim 11, Bay teaches the method wherein:

at least one time period is at most 10 days long and at least one other time period is at least one year long.
(Col. 2 lines 35-49)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a) Baker, et al., U.S. Patent #6405204, June 11, 2002
Alerts by Sector/News Alerts.
- b) Freeney, Jr., U.S. Patent #6012042, January 4, 2000
Security Analysis System.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (703) 305-4001. The examiner can normally be reached on M-F 8:00-5:00.

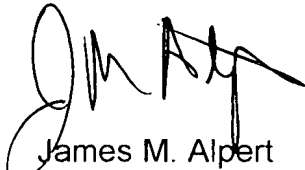
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Respectfully,



James M. Alpert
September 29, 2004

Joseph W. Lat
PRIMARY EXAMINER AU 3624